AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-21. (canceled)

22. (new) A method, wherein a target nucleic acid sequence in a sample is placed in contact with a detectable probe to hybridize the probe to the target sequence, and detecting the hybridized probe, wherein said probe has two free nucleic acid end parts which are at least partially complementary to and capable of hybridizing to two at least substantially neighboring regions of the target sequence, comprising the following steps:

a) hybridizing the target sequence to the probe ends under hybridizing conditions;

b) covalently connecting the ends of the hybridized probe with each other to form a circularized structure;

wherein the probe is immobilized to a solid support via a solid phase anchor and that the probe is provided with a cleavable and a detectable function, or a dissociable and detectable function,

in a way that said detectable function remains bound to the probe if the probe has interacted with its target;

and the method comprises the further steps of:

c) cleaving said cleavable function or dissociating said dissociable function, respectively;

d) separating free detectable functions from any remaining detectable functions bound to the probe by washing under denaturing conditions; and

e) detecting the presence and, if desired, location of the remaining probe as indicative of the presence of the target nucleic acid sequence.

23. (new) The method according to claim 22, wherein said detectable function is cleaved by cleaving a cleavable linker located on the same probe end as the detectable function.

24. (new) The method according to claim 22, wherein one or both of the probe ends have at least two branches, and a detectable function is provided on each of the branches on one end part of the probe, the detectable functions being different and distinguishable from each other.

25. (new) The method according to claim 24, wherein one probe end is linear and the other probe end is branched.

26. (new) The method according to claim 22, wherein said detectable function is dissociable by being provided on a circular probe hybridizing to said target-specific probe.

27. (new) The method according to claim 22, wherein said detectable function is dissociable by being provided on said target-specific probe hybridizing to a circular probe.

28. (new) The method according to claim 22, wherein said target-specific probe is designed to hybridize to the target molecule to leave an interspace between the probe ends, at least one additional probe is provided which is designed to hybridize to the target molecule in said interspace, and the hybridized probes are covalently interconnected.

29. (new) The method according to claim 22, wherein said target-specific probe or probes are designed to hybridize to the target molecule to leave a small gap between adjacent probe ends, and said gap or gaps are filled by an extension reaction prior to covalently interconnecting the probe ends.

30. (new) The method according to claim 22, wherein said covalent connection of the probe ends is performed by enzymatic, ribozyme-mediated or chemical ligation.

31. (new) The method according to claim 22, wherein said target molecule is a DNA or RNA sequence.

32. (new) The method according to claim 22, wherein said probe or probes are oligonucleotides.